Amendments to the Claims

Please cancel claims 310 and 322 without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the above-captioned application.

Listing of Claims:

309. (currently amended) A system for detecting an analyte in a fluid comprising:

a body~~, wherein~~ ;

~~a sensor array system is positioned within the body, the sensor array system comprising~~

a light source disposed within the body;

a cartridge, wherein the cartridge is configured to be removably positionable in the body, and wherein the cartridge comprises a cartridge body and a sensor array disposed within the cartridge body, and wherein the sensor array comprises:

~~a sensor array, the sensor array comprising~~ a supporting member comprising at least one cavity formed within the supporting member;

a particle, wherein the particle is positioned ~~within~~ in the cavity, and wherein the particle is configured to produce a signal when the particle interacts with ~~the~~ an analyte during use; and

a detector disposed within the body, wherein the detector ~~being~~ is configured to detect the signal produced by the interaction of the analyte with the particle during use;

wherein the light source and the detector are positioned such that light passes from the light source, to the particle, and onto the detector during use.

Claim 310 (cancelled)

311. (currently amended) The system of claim 309, further comprising a sample input port, wherein the sample input is positioned on the body, and wherein the sample input port is coupled to the sensor array such that samples introduced into the input port are transferred to the sensor array.

312. (currently amended) The system of claim 309, further comprising a sample input port, wherein the sample input is positioned on the body, and wherein the sample input port is coupled to the sensor array such that samples introduced into the input port are transferred to the sensor array, and wherein the sample input port is configured to receive a syringe.

313. (original) The system of claim 309, further comprising a sample input port and a filter, wherein the sample input is positioned on the body, and wherein the sample input port is coupled to the sensor array such that samples introduced into the input port are transferred to the sensor array, and wherein the filter is coupled to the sample input port.

314. (original) The system of claim 309, further comprising a fluid cartridge coupled to the

body and the sensor array.

315. (currently amended) The system of claim 309, further comprising:

an electronic controller disposed in the body and coupled to the sensor array, the light source, and the detector;

wherein the electronic controller ~~controls~~ is configured to control the operation of the sensor array system.

316. (original) The system of claim 309, further comprising a global positioning system coupled to the body.

317. (original) The system of claim 309, further comprising a data transfer system.

318. (original) The system of claim 309, wherein the detector comprises a monochrome detector.

319. (original) The system of claim 309, wherein the detector comprises a color detector.

320. (original) The system of claim 309, wherein the light source comprises at least one light-emitting diode.

321. (original) The system of claim 309, wherein the light source comprises a light emitting diode.

Claim 322 (cancelled)

323. (original) The system of claim 309, further comprising a fluid delivery system coupled to the supporting member.

324. (original) The system of claim 309, wherein the detector comprises a charge-coupled device.

325. (original) The system of claim 309, wherein the particle comprises a receptor molecule coupled to a polymeric resin.

326. (original) The system of claim 309, wherein the system comprises a plurality of particles positioned within a plurality of cavities, and wherein the system is configured to substantially simultaneously detect a plurality of analytes in the fluid.

327. (original) The system of claim 309, wherein the particle ranges from about 0.05 micron to about 500 microns.

328. (original) The system of claim 309, wherein a volume of the particle changes when contacted with the fluid.

329. (currently amended) The system of claim 309, wherein the particle further comprises a first indicator and a second indicator, wherein the first and second indicators ~~being~~ are configured to be coupled to ~~the~~ a receptor, wherein the interaction of the receptor with the analyte causes the first and second indicators to interact such that the signal is produced.

330. (currently amended) The system of claim 309, wherein the particles further comprises an indicator, wherein the indicator is associated with ~~the~~ a receptor such that in the presence

of the analyte the indicator is displaced from the receptor to produce the signal.

331. (original) The system of claim 309, wherein the supporting member comprises silicon.

332. (original) The system of claim 309, wherein the supporting member further comprises channels in the supporting member, wherein the channels are configured to allow the fluid to flow through the channels into and away from the cavity.

333. (currently amended) The system of claim 309, wherein the supporting member further comprises a barrier layer positioned over the cavity, wherein the barrier layer ~~being~~ is configured to inhibit dislodgment of the particle during use.

334. (currently amended) The system of claim 309, wherein the supporting member further comprises a barrier layer positioned over the cavity, wherein the barrier layer ~~being~~ is configured to inhibit dislodgment of the particle during use, and wherein the barrier layer comprises a substantially transparent cover plate positioned over the cavity, and wherein the ~~cover plate~~barrier layer is positioned ~~a fixed distance over the cavity~~ such that a channel is formed between an upper surface of the supporting member and the barrier layer, and wherein the fluid ~~can enter the cavity.~~ passes through the channel during use.

335. (original) The system of claim 309, wherein the supporting member comprises a plastic material.

336. (original) The system of claim 309, wherein the supporting member comprises a dry film photoresist material.

337. (currently amended) The system of claim 309, wherein the cavity is configured such that

the fluid entering the cavity passes through the ~~supporting member~~ cavity during use.

338. (original) The system of claim 309, further comprising a pump coupled to the supporting member, wherein the pump is configured to direct the fluid towards the cavity.

339. (currently amended) The system of claim 309, wherein a channel is formed in the supporting member, wherein the channel ~~coupling the~~couples a pump to the cavity such that the fluid flows through the channel to the cavity during use.

340. (original) The system of claim 309, further comprising a vacuum apparatus coupled to the sensor array, wherein the vacuum apparatus is configured to pull the fluid through the cavity during use.

Response to Office Action Mailed May 10, 2004

A. Claims in the Case

Claims 309-340 are rejected. Claims 309, 311-321, and 323-340 are pending. Claims 310 and 322 have been cancelled without prejudice. Claims 309, 315, 322, 329, 330, 333, 334, 337 and 339 have been amended.

B. The Claims Are Not Indefinite Pursuant To 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 329 and 339 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claims 329 and 339 have been amended for clarification.

C. The Claims Are Not Anticipated by Michael Pursuant To 35 U.S.C. § 102(b)

The Examiner rejected claims 309, 310, 314, 316, 319, 323, 324, 326, 327, and 329 under 35 U.S.C. § 102(b) as being anticipated by "Making Sensors out of Disarray: Optical Sensor Microarrays" by Michael et al., Proceedings of SPIE, Vol. 3270, pp. 34-41(hereinafter "Michael"). Applicant respectfully disagrees that the claims are unpatentable over Michael.

The standard for "anticipation" is one of fairly strict identity. To anticipate a claim of a patent, a single prior source must contain all the claimed essential elements. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q.81, 91 (Fed.Cir. 1986); *In re Donahue*, 766 F.2d 531, 226 U.S.P.Q. 619, 621 (Fed.Cir. 1985).

The Office Action stated:

> Michael et al disclose a system comprising a body (page 35, Fig. 1) a sensor array system positioned within the body and comprising a light source (Hg-Xe lamp "N"), a sensor array comprising a supporting member (optical imaging fiber "E") and at least one cavity (Fig. 3) a particle positioned within the cavity which is configured to produce a signal when interacting with an analyte (page 36, paragraphs 1-2) and a detector (CCD camera "A") wherein the light source and detector are positioned such that light passes from the light source to the particle and onto the detector during use. (Office Action, page 3)

Amended claim 309 includes a combination of features including, but not limited to, the features of "a cartridge, wherein the cartridge is configured to be removably positionable in the body, and wherein the cartridge comprises a cartridge body and a sensor array disposed within the cartridge body." Applicant's Specification states:

> The portable sensor array system may be used for a variety of different testing. The flexibility of the sensor array system, with respect to the types of testing, may be achieved through the use of a sensor array cartridge. Turning to FIG. 78, a sensor array cartridge 1010 may be inserted into the portable sensor array system 1000 prior to testing. The type of sensor array cartridge used will depend on the type of testing to be performed. Each cartridge will include a sensor array which includes a plurality of chemically sensitive particles, each of the particles including receptors specific for the desired task. For example, a sensor array cartridge for use in medical testing for diabetes may include a number of particles that are sensitive to sugars. A sensor array for use in water testing, however, would include different particles, for example, particles specific for pH and/or metal ions. (Applicant's Specification, page 168, lines 2-11).

Michael states:

> The distal face of an activated fiber is placed in a glass capillary tube containing a solution of monomer, photo-initiator and a fluorescence indicator...The light travels through the discretely-illuminate portion of the imaging fiber (20-80 μm) to the distal face, where polymerization is initiated...Using this photodeposition method, an array of analyte-sensitive polymer matrices is created by repositioning the imaging fiber and repeating the process using either the same or different photopolymerization solutions...The disadvantages of this approach are the multiple photodeposition steps required, as well as a limited fiber surface area on

> which to create a high-density array. Here, we present a new approach for array fabrication that fully utilizes the high packing density of an optical imaging fiber to create a microarray sensor. (Michael, page 34-35); and

Michael appears to teach a method of forming a polymer array on a surface by using a glass capillary filled with photopolymerization solutions to create an array on an optical fiber. Michael appears to teach using a capillary tube to manufacture a sensor array, not during use when testing to determine the presence of an analyte in fluid. Therefore, Michael does not appear to teach using a sensor array positioned within a removably positionable cartridge.

Michael also teaches "[h]igh-density arrays of micrometer- and nanometer-sized wells are fabricated by selectively etching the cores of an optical imaging fiber's distal face." (Michael, page 36). Michael appears to teach a fiber optic sensor array with etched cavities. Michael does not appear to teach or suggest that a sensor array is disposed within a cartridge body. Michael appears to teach using the fiber optic array (i.e., the sensor array) with detection equipment. Michael does not appear to teach a body that includes a light source; a detector; and a sensor array in a cartridge, removably positionable in the body.

Applicant submits that Michael does not appear to teach or suggest all the features of the claim. Applicant respectfully requests removal of the rejections to claim 309 and the claims dependent thereon.

The Office Action stated "[r]egarding Claim 314, Michael et al disclose the system further comprising a fluid cartridge coupled to the sensor and array (capillary ube (enlargement), Fig. 1)." (Office Action, page 3). Applicant respectfully disagrees that Michael teaches all the features of the claim.

> In one embodiment, all of the necessary fluids required for the chemical/biochemical analyses are contained within the portable sensor array system. The fluids may be stored in one or more cartridges 1050. The cartridges 1050 may be removable from the portable sensor array system. Thus, when a cartridge 1050 is emptied of fluid, the cartridge may be replaced by a new cartridge or removed and refilled with fluid. The cartridges 1050 may also be removed and replaced with cartridges filled with different fluids when the sensor array cartridge is changed. Thus, the fluids may be customized for the specific tests being run. Fluid cartridges may be removable or may be formed as an integral part of the reader. (Applicant's Specification, page 170, lines 5-12).

Michael states, "The distal face of an activated fiber is placed in a glass capillary tube containing a solution of monomer, photo-initiator and a fluorescence indicator." (Michael, page 34). Michael appears to teach a glass capillary filled with photopolymerization solutions to form a polymer array on a surface of an optical fiber. Michael does not appear to teach or suggest a fluid cartridge. Applicant submits that Michael does not appear to teach or suggest all the features of the claim. Applicant respectfully requests removal of the rejection to claim 314.

The Office Action stated "[r]egarding Claim 316, Michael et al disclose the system further comprising a global positioning system (xy-positioner "F", Fig. 1). (Office Action, page 4). Applicant respectfully disagrees that Michael teaches all the features of the claim.

Claim 316 includes a combination of features including, but not limited to, the features of "a global positioning system coupled to the body." Applicant's Specification states:

> The portable sensor array system may also include a global positioning system ("GPS"). The GPS may be used to track the area that a sample is collected from. After collecting sample data, the data may be fed to a server, which compiles the data along with GPS information. Subsequent analysis of this information may be used to generate a chemical/biochemical profile of an area. For example, tests of standing water sources in a large area may be used to determine the environmental distribution of pesticides or industrial pollutants. (Applicant's Specification, page 171, lines 12-17).

Michael states "[a]rrays of individual sensors are immobilized in precise locations on the fiber's distal face using site-selective photodeposition instrumentation (Figure 1)." (Michael, page 34). Michael appears to teach using a xy-positioner with an optical fiber to determine locations on a face of an optical fiber in figure 1. Michael does not appear to teach or suggest a global positioning system. Applicant submits that Michael does not appear to teach or suggest all the feature of claim 316. Applicant respectfully requests removal of the rejection to claim 316.

The Office Action stated "[r]egarding claim 323, Michael et al disclose the system further comprising a fluid delivery system coupled to the body (capillary tube (enlargement), Fig. 1)." (Office Action, page 4). For at least the reasons previously mention, Applicant submits that Michael does not appear to teach or suggest a fluid delivery system. Applicant respectfully requests removal of the rejection to the claims.

D. <u>The Claims Are Not Anticipated by Stabile Pursuant To 35 U.S.C. § 102(a), (e)</u>

The Examiner rejected claims 309-311, 315-324, 326-328, 331, and 333-336 under 35 U.S.C. § 102(a), (e) as being anticipated by U.S. Patent No. 5,872,623 to Stabile et al. (hereinafter "Stabile"). Applicant respectfully disagrees that the claims are unpatentable over Stabile.

The Office Action stated:

> Stabile et al disclose an apparatus comprising a body comprising a sensor array system, the system comprising a light source, a sensor array comprising a supporting member having at least one cavity, a particle positioned within the cavity...and a detector wherein the light source and detector are positioned such that light passes from the light source to the particle and onto the detector. (Office Action, page 5)

Amended claim 1 includes a combination of features including, but not limited to, the features of "a cartridge, wherein the cartridge is configured to be removably positionable in the body, and wherein the cartridge comprises a cartridge body and a sensor array disposed within the cartridge body." Applicant's Specification states:

> The portable sensor array system may be used for a variety of different testing. The flexibility of the sensor array system, with respect to the types of testing, may be achieved through the use of a sensor array cartridge. Turning to FIG. 78, a sensor array cartridge 1010 may be inserted into the portable sensor array system 1000 prior to testing. The type of sensor array cartridge used will depend on the type of testing to be performed. Each cartridge will include a sensor array which includes a plurality of chemically sensitive particles, each of the particles including receptors specific for the desired task. For example, a sensor array cartridge for use in medical testing for diabetes may include a number of particles that are sensitive to sugars. A sensor array for use in water testing, however, would include different particles, for example, particles specific for pH and/or metal ions. (Applicant's Specification, page 168, lines 2-11).

Stabile states:

> The reaction cells or detection sites are preferably found on a planar substrate 105 that is separable from the portion of the liquid distribution system containing reservoirs and pumps. The separable planar substrate 105 docks with the liquid distribution system, typically with a gasket material (that has openings at appropriate locations) interposed between the two, so that the cells are aligned underneath the appropriate outlet for delivering liquid from the liquid distribution system. (Stabile column 14, lines 1-9)

Stabile appears to teach a substrate that is removable from a liquid distribution system. Stabile does not appear to teach or suggest a body including a light source and detector and a sensor array within a cartridge that is removable from the body. Applicant submits that Stabile does not appear to teach or suggest all the features of the claim. Applicant respectfully requests removal of the rejections to the claims.

The Office Action stated "[r]egarding claim 316, Stabile et al disclose the apparatus further comprising a global positioning system i.e. motor coupled to the substrate, light and detector (Column 3, lines 36-40)." (Office Action, page 5). Applicant respectfully disagrees that Stabile teaches all the features of the claim.

Claim 316 includes a combination of features including, but not limited to, the features of "a global positioning system coupled to the body." Applicant's Specification states:

> The portable sensor array system may also include a global positioning system ("GPS"). The GPS may be used to track the area that a sample is collected from. After collecting sample data, the data may be fed to a server, which compiles the data along with GPS information. Subsequent analysis of this information may be used to generate a chemical/biochemical profile of an area. For example, tests of standing water sources in a large area may be used to determine the environmental distribution of pesticides or industrial pollutants. (Applicant's Specification, page 171, lines 12-17).

Stabile states "the apparatus further comprises a motor for controllably moving the substrate, the source of light or the array detector to align the first set of detection sites, and then to align a separate, beta set of detection sites on the planar substrate." (Stabile, column 3, lines 36-40). Stabile appears to teach a motor that moves detection sites near a detector and light. Stabile does not appear to teach a global positioning system. Applicant submits that Stabile does not appear to teach or suggest all the features of the claim. Applicant respectfully requests removal of the rejection to claim 316.

The Office Action stated:

> Regarding Claim 322: The claim is drawn to the apparatus having a weight which allows it to be carried by an operator. However, the claim does not define weight; the claim does not define the "operator"; the claim does not require the apparatus be completely assembled while being carried; and the claim does not define the meets and bounds of the term "carried" (i.e., is the carrier an operator driven forklift."). (Office Action, page 6).

Claim 322 includes a combination of features including, but not limited to, the features of "wherein the system for detecting an analyte in fluid has a weight that allows the system to be carried by an operator." Applicant's Specification states:

> The portable sensor array system would, in one embodiment, have a size and weight that would allow the device to be easily carried by a person to a testing site. The portable sensor array system includes a light source, a sensor array, and a detector. (Applicant's Specification, page 167, lines 18-21)

Applicant submits that Stabile does not appear to teach or suggest a complete sensor array system that is light enough in weight to be carried by an operator of the sensor array system. Applicant submits that the system of claim 322 includes, in part, a body and a sensor array system which includes, in part, a light a cartridge, a sensor array, and a detector. Applicant submits that the Stabile does not appear to teach or suggest at least the features of the claim. Applicant respectfully requests removal of the rejection to the claim.

The Office Action states:

> [r]egarding Claim 333, Stabile et al disclose the apparatus comprises a barrier over the cavity i.e. window array (Column 10, lines 33-46). The barrier of Stabile et al is positioned over the cavity (Fig. 4). While the cited passages do not teach the function of the barrier...the intended use or function of a structural element does not define the structural element over the prior art. (Office Action, page 7).

Claim 333 includes a combination of features including, but not limited to, the features of "wherein the supporting member further comprises a barrier layer positioned over the cavity, wherein the barrier layer is configured to inhibit dislodgment of the particle during use." Applicant submits that Stabile does not appear to teach or suggest all the features of the claim.

Stabile teaches:

> the detection device 300 differs in having an addressable window array 313 interposed between (a) the light source 301, mirror 303 and lens 304 and (b) the planar substrate 305. The addressable window array 313 has closable

> transmission windows 314. Illustrated are first transmission window 314 A, second transmission window 314B and third transmission window 314C. First transmission window 314A and second transmission window 314B are illustrated as closed, while third transmission window 314C is illustrated as open. (Stabile, column 10, lines 36-45).

Stabile appears to teach an addressable window array which masks some detection sites to allow a detector to detect only selected detection sites. Stabile appears to show in figure 3A, an addressable window array at a height above wells or detection sites that does not appear to be capable of inhibiting dislodgment of the particles in cavities during use. Applicant submits that Stabile does not appear to teach all of the structural elements of the device including, but not limited to, a barrier layer positioned at a height above the supporting member to inhibit dislodgement of the particle in a cavity during use. Applicant respectfully requests removal of the rejection to the claim.

The Office Action stated "[r]egarding claim 334, Stabile et al disclose the apparatus comprises a transparent barrier over the cavity." Applicant respectfully disagrees that Stabile teaches all the features of the claim.

Claim 334, includes a combination of features including, but not limited to, the features of:

> wherein the supporting member further comprises a barrier layer positioned over the cavity, wherein the barrier layer is configured to inhibit dislodgment of the particle during use, and wherein the barrier layer comprises a substantially transparent cover plate positioned over the cavity, and wherein the barrier layer is positioned such that a channel is formed between an upper surface of the supporting member and the barrier layer, and wherein the fluid passes through the channel during use.

Stabile states:

> The reaction cells or detection sites are preferably found on a planar substrate 105 that is separable from the portion of the liquid distribution system containing reservoirs and pumps. The separable planar substrate 105 docks with the liquid distribution system, typically with a gasket material (that has openings at the appropriate locations) interposed between the two, so that the cells are aligned underneath the appropriate outlet for delivering liquid from the liquid distribution system. (Stabile, column 14, lines 1-9).

Stabile appears to teach a liquid distribution system with gaskets that seal the cavities to the liquid distribution system. The system of Stabile does not appear to be capable of forming channels in the sensor array. Stabile does not appear to teach or suggest a channel formed between an upper surface of the supporting member and the barrier layer such that fluid passes through the channel during use. Applicant submits that Stabile does not appear to teach or suggest all the features of the claims. Applicant respectfully requests removal of the rejection to the claim.

E. The Claims Are Not Anticipated by Stabile and Zanzucchi Pursuant To 35 U.S.C. § 102(a), (e)

The Examiner rejected claims 314, 325, 332, and 337-340 under 35 U.S.C. § 102(a), (e) as being anticipated by Stabile as defined by U.S. Patent No. 5,846,396 to Zanzucchi et al. (hereinafter "Zanzucchi"). Applicant respectfully disagrees that the claims are unpatentable over Stabile as defined by Zanzucchi.

Amended claim 309 includes a combination of features including, but not limited to, the features of "a cartridge, wherein the cartridge comprises a sensor array" and "wherein the cartridge is configured to be removably positionable in the body." For at least the reasons previously mentioned, Applicant submits that Stabile does not appear to teach or suggest at least

the quoted features of the claim. Zanzucchi does not appear to teach of suggest at least the quoted feature of the claim. Applicant respectfully requests removal of the rejection to claim 309 and the claims dependent thereon.

F. The Claims Are Not Obvious Over Stabile In View Of Wilding Pursuant To 35 U.S.C. § 103(a)

The Examiner rejected claims 312-313 under 35 U.S.C. § 103(a) as being obvious over Stabile in view of U.S. Patent No. 5,587,128 to Wilding et al. (hereinafter "Wilding"). Applicant respectfully disagrees that the claims are unpatentable over Stabile in view of Wilding.

There must be some suggestion or motivation in either the references themselves or in the knowledge generally available to one or ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP 2142, 2143. The mere fact that references can be combined does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990); MPEP 2143.01. Whether or not "a particular combination might be 'obvious to try' is not a legitimate test of patentability." *Id.* at 1599, citing *In re Geiqer*, 815 F.2d 868, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987) and *In re Goodwin*, 576 F.2d 375, 377, 198 USPQ 871, 881 (CCPA 1981). Consequently, it is not permissible for the Examiner to "use hindsight reconstruction to pick and chose among isolated disclosures in the prior art to deprecate the claimed invention." Id. at 1600.

Applicant submits that there is no motivation to combine Stabile and Wilding. Stabile appears to teach an apparatus for measuring an amount of light emitted from detection sites on a planar substrate. (Stabile, column 1, lines 40-43). Wilding states:

> The invention provides a family of small, mass produced, typically one-use devices (sometimes referred to herein as "chips") for conducting a reaction to enable the rapid amplification of a polynucleotide in a sample. In one

> embodiment, the device comprises a solid substrate that is fabricated to comprise a mesoscale polynucleotide amplification reaction chamber. The device also may include a cover, e.g., a transparent cover, disposed over the substrate, to seal at least a portion of the reaction chamber during an amplification reaction. The device further includes at least one port in fluid communication with the reaction chamber, for introducing a sample into the chamber (sometimes referred to herein as a "sample inlet port" or "inlet port"). (Wilding, column 4, lines 10-22).

Wilding appears to teach reaction chambers for rapid amplification of polynucleotides. Applicant submits that there does not appear to be a motivation to combine the apparatus for detecting light emitted from detection sites in Stabile with the polynucleotide amplification chamber of Wilding. Applicant respectfully requests removal of the rejection to the claims.

G. The Claims Are Not Obvious Over Stabile In View Of Michael Pursuant To 35 U.S.C. § 103(a)

The Examiner rejected claims 329-330 under 35 U.S.C. § 103(a) as being obvious over Stabile in view of Michael. Applicant respectfully disagrees that the claims are unpatentable over Stabile in view of Michael.

For at least the reasons previously mentioned, Applicant submits that Stabile and Michael do not appear to teach or suggest all the features of the claims. Applicant respectfully requests removal of the rejection to the claims.

H. Double Patenting

The Examiner provisionally rejected the claims of the present application over: U.S. Patent Application No.09/775,344; U.S. Patent No. 6,713,298; U.S. Patent No. 6,589,779; U.S. Patent No. 6,680,206; and U.S. Patent No. 6,602,702. Applicant does not believe that a terminal

disclaimer is necessary for the present application, but in the interest of expediency, a terminal disclaimer over the above noted patents and patent application has been submitted.

I. Summary

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

A Fee Authorization for the terminal disclaimer fee is enclosed. If any extension of time is necessary, Applicant hereby requests the appropriate extension of time. If any fees have been inadvertently omitted or if any fees are required, please charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5119-00529/EBM

Respectfully submitted,

Mark R. Deluca
Reg. No. 44,649

Patent Agent for Applicants

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398
(512) 853-8800 (voice)
(512) 853-8801 (facsimile)

Date: 8/10/04